STREAM CLASSIFICATION GLOSSARY

Bankfull Discharge -- Is the discharge and corresponding stage at the incipient point of flooding. It is often associated with a return period, on the average, of 1.5 years. It is expressed as the momentary maximum or instantaneous peak flows rather than the mean daily discharge.

Bankfull width -- Is the surface width of the stream measured at the bankfull stage.

Bankfull mean depth -- Is the mean depth of flow at the bankfull stage, determined as the cross-sectional area (sum of the products of unit width times depth) divided by the bankfull surface width.

Bankfull stage -- Is the elevation of the water surface associated with the bankfull discharge.

Belt width -- Is the width of the full lateral extent of the bankfull channel measured perpendicular to the fall of the valley.

Confinement -- Is the lateral containment of rivers as quantitatively determined by meander width ratio (meander width ratio is determined by dividing belt width by bankfull width - see meander width ratio).

Entrenchment Ratio -- Is the quantitative index of the vertical containment of rivers as determined by dividing the floodprone area width by the bankfull width. (The floodprone area width is measured at twice the maximum bankfull depth - see floodprone area width).

Flood-frequency analysis -- This analysis uses a probability of a given magnitude flood peak that may be expected to occur for a given return period expressed in years. For example the "1 in 100 year " flood would have a probability of 0.01 or 1 % of being equaled or exceeded in any one year. Recurrence interval is determined as : 1.00/ probability of exceedance. Correspondingly, probability of exceedance is determined as 1.0/recurrence interval (yrs) times 100. The graphical method of flood frequency analysis involves ranking the historical record of flood peaks from highest to lowest and given a plotting position (m/N+1, where: m = rank of the event, N = number of years of record). This calculation gives exceedance probability for their respective peak flows. The data and their respective plotting positions are plotted on probability paper and a line drawn to interpret the points. The result is called a probability plot and the fitted line a flood-frequency curve.

Floodplain - The floodplain of a river is the flat adjacent to the bankfull channel which is constructed by the river in the modern climate. It is available to the river to accommodate flows greater than the bankfull discharge (see bankfull stage). There is not a constant frequency of occurrence of flood discharge associated with the floodplain as the depth of flow over the floodplain is a function of the width of the floodplain and the magnitude of the flood peak.

Floodprone area width - Is the width associated with a value of twice the bankfull depth. It is the area including the floodplain of the river and often the low terrace of alluvial streams. This value when divided by the bankfull width is used to determine entrenchment ratio.

Meander width ratio -- is the quantitative expression of confinement (lateral containment of rivers) and is determined by the ratio of belt width/bankfull width.

Riffle/pool channel -- Is generally associated with alluvial channels on slopes less than .02 whose bed features are composed of a series of pools (deep and flat slope facets) and riffles (shallow and steep slope facets). The pool-to-pool sequence is related to the meander geometry of rivers and is associated with ½ meander wavelength (approximately 5-7 bankfull widths) .

Sinuosity -- Is the ratio of stream length to down valley distance. It is also the ratio of valley slope to channel slope.

Step/pool channel -- Is the type of bed features associated with the slope and bankfull width of the stream. The bed features are generally chutes and scour pools whose pool-to-pool spacing in inversely related to the stream slope and is proportional to the bankfull width.

Stream stability -- The ability of a stream to transport the water and sediment of its watershed in such a manner to maintain its dimension, pattern and profile, over time, without either aggrading nor degrading.

Stream slope -- Is determined by the change in elevation of the bed surface over a measured length of channel. It is expressed as a ratio of elevation (rise) over distance (run) in ft/ft.

Terrace -- Is a flat adjacent to the river in alluvial valleys created by the abandonment of the floodplain. Other than the low terrace, it is rare that terraces are flooded in the modern climate. Many of the higher terraces are related to elevations associated with the Holocene period. Other terraces are related to changes in local base level adjustments from recent perturbations and associated stream degradation, creating abandoned floodplains (terraces).

Water surface slope -- Is the slope of the stream as measured at the water surface rather than the bed surface. It is often used as the average energy grade of the stream. Water surface slope measurements are often obtained for various stages of streamflow. Slope values will vary somewhat for riffles and pools for the low flow stage compared to the bankfull stage.

Width/depth ratio -- Is determined by the ratio of bankfull surface width to bankfull mean depth.